

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**In re Application of:**

Hilda E. Smith

**Serial No.:** To Be Assigned

**Filed:** January 22, 2001

**For:** STREPTOCOCCUS SUIIS VACCINES  
AND DIAGNOSTIC TESTS

**Examiner:** To Be Assigned

**Group Art Unit:** To Be Assigned

**Attorney Docket No.:** 4726US

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**Preliminary Amendment**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Before examination and calculation of the filing fees, please amend the referenced application as follows:

**IN THE SPECIFICATION:**

Page 3, line 7, please replace "shown convincingly", with --convincingly shown--;

Page 3, line 13, please replace "with" with --in--;

Page 3, line 25, please replace "The increasing recognition over the past two decades", with  
--Over the past two decades, increasing recognition--;

Page 3, line 30, please indent the first sentence;

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Page 3, line 34, please replace “antigen” with –antigenic–;

Page 4, line 8, please insert a comma after “acid” and replace “cause” with –causes–;

Page 4, line 9, please insert a comma after “meningitis” and insert --allowing-- after “for”;

Page 4, line 10, please italicize “*S. agalactiae*” and insert –been-- after “has”;

Page 4, line 12, please italicize, “*S. suis*”;

Page 4, line 17, please delete “of”;

Page 4, line 30, please insert a comma after “others”

Page 4, line 31, please replace “with” with –in-- and replace “horse” with –horses–;

Page 4, line 33, please replace “with” with –in–;

Page 4, line 34, please replace “septicaemia” with –septicemia–;

Page 4, line 36, please replace “with” with –in–;

Page 5, please delete lines 2-5;

Page 5, line 6, before the first sentence, please insert -Within Lancefield groups R, S, and T, (and with ungrouped types),–;

Page 5, line 16, please replace “carried out” with –performed–;

Page 5, line 18, please replace “characterised” with --characterized–;

Page 5, line 24, please replace “haemagglutinins” with --hemagglutinins–;

Page 5, line 25, please replace “haemolysin” with –hemolysis,–;

Page 5, line 28, please replace “polysaccharidic” with --polysaccharide–;

Page 5, line 34, please replace “organisation” with –organization–;

Page 5, line 35, please replace “functioning” with –function–;

Page 5, line 36, please insert a comma after “*S. suis*”;

Page 6, line 4, please insert –the-- after “that”;

Page 6, line 10, please replace “polysaccharidic” with --polysaccharide–;

Page 6, line 20, please replace “Therefor” with –Therefore–;

Page 6, line 23, please replace both occurrences of “with” with –in–;

Page 6, line 25, please replace “contributed” with –contribute–;

Page 6, line 29, please replace “bacteraemia” with –bacteremia–;

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Page 7, line 4, please replace “colonised” with –colonized–;

Page 7, line 7, please replace “to” with –against–;

Page 7, line 9, please replace “the acquisition of” with –exposure to–;

Page 7, line 11, please replace “which” with –that–;

Page 7, line 14, please replace “e.g.” with –for example–;

Page 7, line 16, please replace “(CP)” with --(“CP”)–;

Page 7, line 22, please replace “in” with –typically–;

Page 7, line 23, please delete “general” and replace “at utilising” with –to utilize–;

Page 7, line 25, please replace “main” with –primary–;

Page 7, lines 26-29, please replace “The capsule, during infection, provides resistance to phagocytosis and thus promotes the escape of the bacteria from the immune system of the host, protecting the bacteria by”, with –During infection, the capsule provides resistance against phagocytosis and thus protects the bacteria from the immune system of the host, and from–;

Page 8, lines 2-7, please replace the existing sentence with --It is generally thought that the bacterium will get recognized by the immune system through the anticapsular-antibodies or serum-factors bound to its capsule, and will, through opsonization, get phagocytosed and killed only when the host has antibodies or other serum factors directed against capsule antigens.–;

Page 8, line 12, please replace “in general” with –generally–;

Page 8, line 15, please insert –that was-- before “licensed”;

Page 8, line 26, please replace “haematology” with --hematology–;

Page 8, line 27, please indent first sentence and replace “In the light of above” with –Thus,–;

Page 8, line 28, please replace “being paid at” with –directed toward–;

Page 8, line 33, please replace “are” with –is–, insert a comma after “available”, and replace “need to de” with –needs to be–;

Page 8, line 34, please delete “each and”;

Page 9, before line 1, insert and center –**Disclosure of the Invention**–;

Page 9, line 3, please replace, “in general has” with – has generally–;

Page 9, line 8, please create a new paragraph with the sentence that begins with

*“Streptococcus”* and insert a coma after “genes”

Page 9, line 9, please insert a comma after “invention” and replace “organisation” with –organization–;

Page 9, line 12, please replace “polymerisation” with --polymerization- and replace “This” with “The central”–;

Page 9, line 14, please insert a comma after “functions”;

Page 9, line 15, please delete “in”;

Page 9, lines 20- 21, please replace “in the experimental part of the description of the invention” with –herein–;

Page 9, line 25, please insert a comma after “is” and “example” and replace “hybridising” with –hybridizing–;

Page 9, line 29, please italicize “see” and insert a comma after “example”;

Page 9, line 30, please insert a comma after “as” and “example”;

Page 9, lines 30- 31, please replace “in the experimental part of the description” with –herein–;

Page 9, line 36, please start a new paragraph with the sentence beginning “The invention”;

Page 10, line 3, please insert --, at first glance,-- after “Although”, replace “organisation” with --organization-- and delete “at”;

Page 10, line 4, please delete “first glance” and insert a comma after “gene”

Page 10, line 6, please insert a comma after “see” and italicize “see”;

Page 10, line 7, please replace “centre” with –center–;

Page 10, line 12, please insert a comma after “serotype 2”;

Page 10, line 13, please replace “Figure” with --FIG.--;

Page 10, line 16, please insert a comma after “see” and “example”, please insert a period after “Table 2”, delete “of the description” and replace “for” with –For–;

Page 10, line 17, please insert a comma after “example”;

Page 10, line 21, please replace “syntheses” with –synthesis–;

Page 10, line 25, please insert –a-- after “as”;

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- Page 10, line 29, please replace “For example, the” with –The–;
- Page 10, line 32, please replace “Figure” with --FIG.–;
- Page 10, line 36, please replace “Figure” with --FIG.–;
- Page 11, line 1, please insert commas after “provides” and “example” and insert –of the *cps* locus-- after “fragment”;
- Page 11, lines 3-4, please replace “in the experimental part “ with –herein–;
- Page 11, line 2, please delete “of the *cps* locus”;
- Page 11, line 10, please delete “herein”;
- Page 11, line 11, please insert –herein-- after “interchangeably” and insert commas after “is” and “example”;
- Page 11, line 12, please replace “hybridising” with --hybridizing–;
- Page 11, line 15, please italicize “e.g.”;
- Page 11, line 18, please italicize “e.g.”;
- Page 11, line 21, please replace “hybridisation” with --hybridization–;
- Page 11, line 22, please insert commas after “as” and “example”, insert –herein.-- after “part” and delete “of the”;
- Page 11, line 23, please replace “description of the invention. Herein the” with –The–;
- Page 11, line 24, please replace “characterisation” with --characterization–;
- Page 11, line 27, please delete “yet”;
- Page 11, line 28, please insert a comma after “PCR”;
- Page 11, line 29, please insert a comma after “serotype 9”, insert a comma after “example” and insert –for-- before “serotype”;
- Page 11, line 30, please delete “which is”;
- Page 11, line 34, please delete “further provided”
- Page 11, line 36, please insert a comma after “example” and replace “comprise” with –include–;
- Page 12, line 2, please italicize “e.g.” and replace “hybridising” with --hybridizing–;
- Page 12, line 3, please replace “hybridisation” with --hybridization– and insert commas after

“detected” and “example”;

Page 12, line 4, please replace “immboilised” with –immobilized–;

Page 12, line 5, please replace “comprise” with –include– and italicize “e.g.” ;

Page 12, line 6, please insert a comma after “example”;

Page 12, line 7, please replace “FISH” with –“FISH”–;

Page 12, line 8, please replace “comprise” with –include– ;

Page 12, line 9, please italicize “e.g.” ;

Page 12, line 10 please replace “comprise” with –include– and replace “EIA” with –“EIA”–;

Page 12, line 14, please replace “labelled” with –labeled–;

Page 12, line 15, please delete “providing” and insert –in-- after “primer”;

Page 12, line 16, please replace “hybridisation” with --hybridization– ;

Page 12, line 18, please replace “comprising” with –including– ;

Page 12, line 19, please insert --is-- after “kit”, insert a comma after “example” and replace “hybridisation” with --hybridization–

Page 12, line 20, please delete “is”;

Page 12, line 22, please replace “furthermore” with –further–;

Page 12, line 23, please indent the first paragraph;

Page 12, line 24, please insert a comma after “are” and “example”;

Page 12, line 25, please delete “for example”, insert a period after “Table 2” and delete “of the description,”;

Page 12, line 26, please replace “for” with –For–, insert a comma after “example”, insert –that-- after “provided” and replace “encoding” with –encodes–;

Page 12, line 29, please insert a comma after “thereof”;

Page 12, line 35, please replace “furthermore” with –also-- and replace “to produce” with –of producing–;

Page 12, line 36, please replace “comprising” with –including– ;

Page 13, line 3, please start a new paragraph with the sentence beginning “A comparison”;

Page 13, line 27, please italicize, “J. Hyg.”;

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Page 13, line 33, please insert a comma after “and” and “blood”;

Page 14, line 6, please replace “characterised” with --characterized--;

Page 14, line 7, please insert commas after “can” and “example”;

Page 14, line 9, please insert commas after “as” and “example” and replace “demnosrable” with --demonstrable--;

Page 14, line 13, please replace “localisation” with --localization--;

Page 14, line 16, please insert a comma after “example”;

Page 14, line 17, please insert a comma after “has” and “example”;

Page 14, line 18, please italicize “et al.” and “PNAS”;

Page 14, line 19, please italicize “et al.” and “PNAS”;

Page 14, line 20, please italicize “et al.”;

Page 14, line 21, please italicize “et al.” and delete “for”;

Page 14, line 28, please insert a comma after “are” and “example”;

Page 14, line 29, please replace “whereby” with --wherein--;

Page 14, line 31, please replace “are” with --include--

Page 14, line 36, please replace “a much preferred” with --another--;

Page 15, line 1, please replace “obtainable” with --obtained,--;

Page 15, line 2, please insert a comma after “example”;

Page 15, lines 3- 4, please replace “in the experimental part of this description” with --herein-- and insert a comma after “example”;

Page 15, line 5, please replace “is such a” with --are-- and replace “mutant” with --mutants--;

Page 15, line 9, please replace “said” with --the--;

Page 15, line 11, please replace “be it for those with” with --including--

Page 15, line 19, please replace “said” with --the--;

Page 15, line 24, please insert a comma after “vaccine”;

Page 15, line 26, please delete “that” and insert a comma after “invention”;

Page 15, line 28, please replace “nor” with --not--;

Page 15, line 29, please insert commas after “As” and “se”;

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Page 15, line 30, please replace “said” with –the–;

Page 15, line 31, please insert commas after “survive” and “replicate”;

Page 16, line 5, please italicize “Neuropath. Appl. Neurobiol.”;

Page 16, line 6, please italicize “Neuropath. Appl. Neurobiol.” and “J. Infect.”

Page 16, line 7, please italicize “Dis.”;

Page 16, line 15, please replace “said” with –the–;

Page 16, line 19, please insert a comma after “strain”;

Page 16, line 20, please insert a comma after “invention”;

Page 16, line 21, please replace the comma with a period after “antigens”;

Page 16, line 22, please replace “moreover because” with –Moreover,--

Page 16, line 24, please insert a comma after “strain” and “invention” and delete “in”;

Page 16, line 25, please replace “general” with –typically-- and replace “recognised” with --recognized–;

Page 16, line 27, please replace “comprises” with –includes–;

Page 16, line 31, please insert commas after “strain” and “invention”;

Page 16, line 32, please replace “comprises” with –includes–;

Page 16, line 33, please replace “said” with –the–;

Page 17, line 5, please delete “much”;

Page 17, line 6, please delete “according to the invention which”;

Page 17, line 4, please replace “strain comprises” with –including– and replace “said” with –the–;

Page 17, line 10, please delete “to provide a”;

Page 17, line 13, please delete “directed” and replace “said” with –the–;

Page 17, line 14, please insert commas after “can” and “example”;

Page 17, line 15, please insert commas after “is” and “example”;

Page 17, line 19 please insert commas after “strain” and “invention” and replace “which” with –including--;

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Page 17, line 20, please delete “comprises”;

Page 17, line 28, please delete “when they are” and replace “said” with –the–;

Page 17, line 29, please replace “Especially” with –Specifically,--

Page 17, line 30, please replace “said” with –the–;

Page 17, line 33, please replace “said” with –the–;

Page 18, line 1, please replace “comprising” with –including–;

Page 18, line 3, please delete “further comprising”;

Page 18, line 8, please replace “comprise” with –include–;

Page 18, line 10, please replace “comprising” with –including–;

Page 18, line 14, please replace “said” with –the–;

Page 18, line 16, please insert a comma after “invention”;

Page 18, please delete line 18;

Page 18, line 19, please replace “invention, the” with –The–;

Page 18, line 21, please replace “said” with –the–;

Page 18, line 24, please replace “comprising” with –including–;

Page 18, line 28, please replace “wholly” with –wholly–;

Page 19, line 1, please delete “away”;

Page 19, line 9, please replace “comprising” with –including–;

Page 19, line 16, please delete “much” and “of a method provided by the”;

Page 19, line 17, please delete “invention”;

Page 19, line 18, please replace “comprises” with –includes– and replace “said” with –the–;

Page 19, line 20, please replace “said” with –the–;

Page 19, line 24, please delete “according to the”;

Page 19, line 25, please delete “invention” and replace “said” with –the–;

Page 19, line 27, please start a new paragraph with the sentence beginning “The invention”;

Page 19, line 28, please replace “comprising” with –including–;

Page 19, line 33, please replace “furthermore” with –further-- “comprising” with –including–;

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- Page 19, line 34, please delete "further comprising";
- Page 19, line 36 please insert commas after "is" and "example";
- Page 20, lines 9-10, please italicize "*Lactococcus lactis*", "*Lactobacillus casei*", "*Lactobacillus planetarium*" and "*Streptococcus gordonii*";
- Page 20, lines 12-13, please italicize "*L. lactis*", and "*Streptococcus gordonii*";
- Page 20, line 29, please replace "comprising" with --including--;
- Page 20, line 32, please replace "comprise" with --include-- ;
- Page 24, line 1, please insert and center --**Detailed Description of the Invention**--;
- Page 24, line 15, please replace "serotypes" with --serotyped--;
- Page 24, line 19, please italicize "et al.";
- Page 24, line 31, please replace "use of" with --using--;
- Page 25, line 1, please italicize "et al.";
- Page 25, line 6, please insert a comma after "10cpsEF";
- Page 25, line 9, please insert a comma after "plasmids";
- Page 25, line 10, please insert a comma after "pCPS11";
- Page 25, line 12, please insert a comma after "purpose"
- Page 25, line 15, please insert a comma after "pCPS28";
- Page 25, line 27, please replace "labelled" with --labeled--;
- Page 25, line 27, please replace "labelling" with --labeling--;
- Page 26, line 1, before "and" insert --(SEQ. ID. NO. 1)--;
- Page 26, line 2, after "3" insert --(SEQ. ID. NO. 2)--;
- Page 26, line 5, before "and" insert --(SEQ. ID. NO. 3)--;
- Page 26, line 5, after "3", second occurrence, insert --(SEQ. ID. NO. 4)--;
- Page 26, line 8, after "3" insert --(SEQ. ID. NO. 5)--;
- Page 26, line 9, after "3" insert --(SEQ. ID. NO. 6)--;
- Page 26, line 11, please insert a comma after "10cpsEF";
- Page 26, line 14, please insert a comma after "plasmids";
- Page 26, line 15, please insert a comma after "pCPS 7";

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Page 26, line 17, please insert a comma after “purpose”;

Page 26, line 20, please insert a comma after “pCPS28” and “plasmid”;

Page 28, line 1, please replace “before” with –herein–;

Page 28, line 9, please italicize “*S. suis*”

Page 28, line 16, please italicize “*et al.*”;

Page 29, line 1, please replace “by making use of” with –through–;

Page 29, line 6, please insert a comma after “system” and replace “made use of” with -used–;

Page 29, line 34, please insert a comma after “type 2”;

Page 30, lines 1-2, please replace “Fig. 1C” with –FIG. 1, part C–;

Page 20, line 8, please insert a comma after “walking”

Page 30, line 12, please replace “figure” with –FIG.–;

Page 30, line 15, please replace “Fig. 1A” with –FIG. 1, part A–;

Page 32, line 13, please insert a comma after “similarity”;

Page 32, line 25, please italicize “*i.e.*”;

Page 32, line 27, please replace “Fig.” with –FIG.–;

Page 32, line 35, please replace “Fig.” with –FIG.–;

Page 33, line 5, please replace “labelled” with –labeled–;

Page 33, line 9, please insert a comma after “control”;

Page 33, line 12, please insert a comma after “gene”;

Page 33, line 27, please insert a comma after “similarity”;

Page 34, line 5, please insert a comma after “tests”;

Page 34, line 13, please insert a comma after “together”;

Page 34, line 20, please insert a comma after “serotype 1”;

Page 34, line 24, please replace “Fig. 1B” with –FIG. 1, part B–;

Page 34, line 30, please replace “Fig. 1C” with –FIG. 1, part C–;

Page 35, line 3, please replace “figure” with –FIG.–;

Page 35, line 4, please replace “Fig. 1B” with –FIG. 1, part B–;

Page 35, line 25, please insert a comma after “type 14”;

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Page 35, line 27, please insert “of the” after “similarity”, insert a comma after “data” and delete “found”;

Page 35, line 32, please insert a comma after “similarity”;

Page 36, line 1, please italicize “i.e.”;

Page 36, line 16, please replace “figure” with –FIG.--;

Page 36, line 17, please replace “Fig. 1C” with –FIG. 1, part C–;

Page 36, line 20, please insert a comma after “(Table 4)”;

Page 36, line 21, please insert a comma after “comparisons”;

Page 36, line 25, please insert a comma after “data”;

Page 36, line 31, please insert a comma after “data”;

Page 37, line 14, please replace “labelled” with –labeled–;

Page 38, line 10, please delete the second occurrence of “the” ;

Page 38, line 13, please insert a comma after “plasmid”;

Page 38, line 15, please insert a comma after “10cpsEF” and the second occurrence of “pCPS28”;

Page 38, line 16, please insert a comma after “gene” and “5'-end”;

Page 38, line 31, please replace “Fig. 3A” with –FIG. 3, part A–;

Page 38, line 32, please replace “Figs. 3B and 3C” with –FIG. 3, part B and part C–;

Page 39, line 2, please replace “PAM” with –“PAM”–;

Page 39, line 6, please replace “Fig. 4A” with –FIGs. 9A and 9B–;

Page 39, line 7, please replace “Fig. 4A” with –FIGs. 9A and 9B–;

Page 39, line 10, please replace “Fig. 4B” with –FIGs. 9A and 9B,–;

Page 39, line 32, please italicize “i.e.” and replace “%” with –percent–;

Page 40, line 17, please replace “characterisation” with --characterization–;

Page 40, line 24, please replace “centre” with –center–;

Page 40, line 29, please insert a comma after “unknown”;

Page 41, line 21, please insert a comma after “data”;

Page 41, line 28, please insert a comma after “type 2”;

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- Page 41, line 34, please insert a comma after “Hence”;
- Page 42, line 6, please insert a comma before “Cps141I”;
- Page 42, line 32, please insert a comma after “data”;
- Page 42, line 33, please replace “centre” with –center–;
- Page 43, line 17, please insert a comma before “the”;
- Page 43, line 25, please insert a comma after “data”;
- Page 44, line 17, please italicize “i.e.”;
- Page 44, line 19, please insert a comma after “type 2”;
- Page 44, line 23, please insert a comma before “two”;
- Page 44, line 25, please insert a comma after “sequence”;
- Page 44, line 27, please insert a comma after “Cps1H”;
- Page 45, line 8, please insert a comma after “data”;
- Page 45, line 14, please insert a comma after “probes”;
- Page 45, line 21, delete “for example”;
- Page 45, line 22, replace “beside” with –Besides-- , insert a period after “serotype 2” and delete “During the last years”;
- Page 45, line 32, please insert a comma after “hand”;
- Page 46, line 3, please insert a comma after “tests”;
- Page 46, line 9, please insert a comma after “studies”;
- Page 46, please make lines 15-16 bold text;
- Page 46, line 24, please italicize “S. suis”;
- Page 46, line 29, please insert a comma after “3'-end”;
- Page 46, line 33, please replace “Fig. 1C” with –FIG. 1, part C–;
- Page 46, line 36, please insert a comma after “approach”;
- Page 47, line 2, please replace “Fig. 1C” with –FIG. 1, part C–;
- Page 47, please make line 4 bold text;
- Page 47, line 12, “Fig. 1A” with –FIG. 1, part A–;
- Page 47, line 16, please replace “is” with –are–;

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- Page 47, line 35, please italicize “*Streptococcus*”;
- Page 47, line 36, please italicize “*agalactiae*” and “*Escherichia coli*”;
- Page 48, line 3, please italicize “*S. agalactiae*”;
- Page 48, line 5, please italicize “*S. agalactiae*”;
- Page 48, line 18, please replace “see later” with –*see, herein*–;
- Page 48, lines 13-14, please italicize “*S. suis*” and “*S. agalactiae*”;
- Page 48, line 16, please italicize “*S. suis*”;
- Page 48, line 23, please italicize “*S. agalactiae*” and “*E. coli*”;
- Page 48, line 24, please italicize “*E. coli*”;
- Page 48, line 25, please italicize “*S. suis*”;
- Page 48, lines 30-31, please italicize “*S. agalactiae*” and “*E. coli*”;
- Page 48, line 32, please italicize “*S. agalactiae*” and “*S. suis*”;
- Page 48, line 33, please italicize “*E. coli*” and insert a comma after “*E. coli*”;
- Page 49, line 3, please and insert a comma after “*E. coli*”, italicize “*E. coli*” and insert –and-- after “synthetase”;
- Page 49, line 8, please italicize “*S. suis*”;
- Page 49, line 9, please italicize “*S. agalactiae*”;
- Page 49, line 12, please insert –the-- after “in”;
- Page 49, line 13, please delete “the capacity of”;
- Page 49, line 15, please italicize “*S. suis*”;
- Page 49, line 18, please italicize “*Streptococcus thermophilus*”;
- Page 49, line 19, please italicize “*Streptococcus*”;
- Page 49, line 20, please italicize “*pneumoniae*”;
- Page 49, line 21, please italicize “*S. pneumoniae*”;
- Page 49, lines 22-23, please italicize “*S. thermophilus*” and “*S. pneumoniae*”;
- Page 49, line 27, please replace “Fig. 9” with –FIG. 10–;
- Page 49, line 28, please insert –)– after “98%”;
- Page 49, line 29, please delete “)”;

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- Page 49, line 33, please italicize “*S. suis*”;
- Page 49, line 34, please italicize “*S. suis*”;
- Page 49, line 36, please italicize “*S. suis*”;
- Page 50, line 2, please replace “radiolabelled” with –radiolabeled–;
- Page 50, line 4, please italicize “*S. suis*” and insert a comma after “control”;
- Page 50, line 5, please italicize “*S. suis*”;
- Page 50, line 11, please replace “probably” with –likely-- and insert a comma after “acid”;
- Page 50, line 13, please italicize “*S. suis*”;
- Page 50, lines 18-19, please italicize “*S. suis*”;
- Page 50, line 33, please italicize “*S. suis*”;
- Page 50, line 35, please italicize “*S. suis*”;
- Page 50, line 36, please replace “labelled” with –labeled–;
- Page 51, lines 4-5, please italicize “*S. pneumoniae*” and insert a comma after “*S. pneumoniae*”;
- Page 51, line 7, please italicize “*S. pneumoniae*”;
- Page 51, line 16, please insert a comma after “10cpsEF”;
- Page 51, line 19, please insert a comma after “operon”;
- Page 51, line 20, please insert a comma after “Therefore”;
- Page 52, please bold the text of lines 13-14;
- Page 52, line 16, please italicize “*Streptococcus suis*”;
- Page 52, line 23, please italicize “*S. suis*”;
- Page 52, line 27, please italicize “*S. suis*”;
- Page 52, line 28, please italicize “*Streptococcus suis*”;
- Page 52, line 34, please italicize “*S. suis*”;
- Page 53, line 2, please italicize “*S. suis*”;
- Page 53, line 7, please italicize “*S. suis*”;
- Page 53, line 9, please italicize “*S. suis*”;
- Page 53, line 13, please italicize “*S. suis*”;

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Page 53, line 14, please italicize “S. suis”;  
Page 53, line 18, please italicize “S. suis”;  
Page 53, line 20, please italicize “S. suis”;  
Page 53, line 22, please italicize “S. suis”;  
Page 53, line 24, please italicize “S. suis”;  
Page 53, line 29, please italicize “S. suis”;  
Page 54, please bold the text of line 1;  
Page 54, please bold the text of line 3;  
Page 54, line 5, please italicize “S. suis”;  
Page 54, line 6, please italicize “S. suis”;  
Page 54, line 9, please italicize “E. coli”;  
Page 54, line 11, please italicize “S. suis”;  
Page 54, please bold the text of line 15;  
Page 54, please bold the text of line 20;  
Page 54, please bold the text of line 31;  
Page 54, line 33, please italicize “S. suis”;  
Page 54, line 35, after “3” first occurrence, insert –(SEQ. ID. NO. 7) and after “3” second occurrence, insert –(SEQ. ID. NO. 8)–;  
Page 55, line 6, please replace both occurrences of “95oC” with –95°C–;  
Page 55, line 7, please replace “56oC” with –56°C– and “72oC” with –72°C–;  
Page 55, please bold the text of line 9;  
Page 55, please bold the text of line 11;  
Page 55, line 12, please italicize “S. suis”;  
Page 55, line 13, please insert a comma after “7”;  
Page 55, line 16, please replace “Fig. 11C” with –FIG. 11, part C–;  
Page 55, line 19, please replace “Fig. 11C” with –FIG. 11, part C–;  
Page 55, please bold the text of line 21;  
Page 55, line 25, please replace “Fig. 11C” with –FIG. 11, part C–;

- Page 56, line 5, please italicize “*Bordetella pertussis*”;
- Page 56, line 6, please italicize “*S. suis*”;
- Page 56, lines 10-11, please italicize “*Bordetella pertussis*”;
- Page 56, line 14, please italicize “*E. coli*”;
- Page 56, line 15, please italicize “*S. suis*”;
- Page 56, line 23, please replace “labelled” with –labeled–;
- Page 56, line 28, please italicize “*S. suis*”;
- Page 56, line 30, please italicize “*S. suis*”;
- Page 57, please bold the text in line 1;
- Page 57, line 3, please italicize “*S. suis*”;
- Page 57, line 4, please insert a comma after “purpose”;
- Page 57, lines 7-8, please italicize “*S. suis*”;
- Page 57, line 11, please replace “Fig. 12B” with –FIG. 12, part B–;
- Page 57, line 12, please replace “Fig. 12A” with –FIG. 12, part A–;
- Page 57, line 14, please italicize “*S. suis*”;

IN THE CLAIMS:

3. (Amended) The isolated or recombinant nucleic acid of claim 1 [or claim 2], wherein said isolated or recombinant nucleic acid is hybridized to a second nucleic acid encoding a gene derived from a *Streptococcus suis* serotype 1, 2, or 9 capsular gene cluster.

7. (Amended) A nucleic acid probe or primer derived from the isolated or recombinant nucleic acid of [any one of claims 1 to 6]claim 1, wherein said nucleic acid probe or primer allows species or serotype specific detection of *Streptococcus suis*.

9. (Amended) A diagnostic test kit comprising the nucleic acid probe or primer of claim 7 [or claim 8].

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10. (Amended) A protein or fragment thereof encoded by the isolated or recombinant nucleic acid of [any one of claims 1 to 6]claim 1.

18. (Amended) A vaccine comprising the recombinant *Streptococcus suis* mutant of claim 15 [or the microorganism of claim 16 or claim 17].

21. (Amended) The vaccine of claim 19 [or claim 20], wherein said Streptococcus mutant deficient in capsular expression is capable of surviving in an immune-competent host.

23. (Amended) The vaccine of [any one of claims 19 to 22]claim 19, wherein said Streptococcus mutant deficient in capsular expression expresses a *Streptococcus* virulence factor or antigenic determinant.

24. (Amended) The vaccine of [any of claims 19 to 23]claim 19, wherein said Streptococcus mutant deficient in capsular expression expresses a *non-Streptococcus* protein.

26. (Amended) A method for controlling or eradicating a Streptococcal disease in a population, said method comprising:

vaccinating subjects in said population with the vaccine of [any one of claims 18 to 25]claim 18.

27. (Amended) A method for controlling or eradicating a Streptococcal disease, said method comprising:

testing for the presence of encapsulated Streptococcal strains in a sample collected from at least one subject in a population partly or wholly vaccinated with a vaccine of [any one of claims 18 to 25]claim 19.

28. (Amended) A method for controlling or eradicating a Streptococcal disease

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comprising testing for the presence of capsule-specific antibodies directed against Streptococcal strains in a sample collected from at least one subject in a population partly or wholly vaccinated with a vaccine of [any one of claims 18 to 25]claim 19.

29. (Amended) A method for controlling or eradicating a Streptococcal disease in a population comprising:

selecting subjects in said population vaccinated with a vaccine according to [any one of claims 18 to 25]claim 19; and

testing a sample collected from at least one subject in said population for the presence of encapsulated Streptococcal strains and/or for the presence of capsule-specific antibodies directed against Streptococcal strains.

Please add the following new claims:

30. The nucleic acid of claim 2, wherein said serotype-specific central region encodes at least one enzyme or fragment thereof involved in polysaccharide biosynthesis.

31. A vaccine comprising the microorganism of claim 16.

32. The vaccine of claim 20, wherein said recombinant Streptococcus mutant has been produced by homologous recombination.

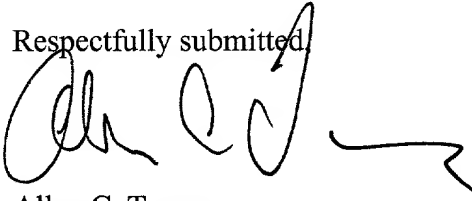
33. The vaccine of claim 21, wherein said mutant is capable of surviving at least at least 8-10 days in said host.

## Remarks

The application is to be amended without prejudice or disclaimer as previously set forth and should not be viewed as narrowing or further limiting the claims. The amendments are sought to

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conform the application to a form more consistent with Office practice and to remove multiple dependencies. It is respectfully submitted that no new matter has been added by the amendments. However, if any questions remain after consideration of the instant amendments, the Office is kindly requested to contact applicants' attorney at the address or telephone number given herein.

Respectfully submitted,  


Allen C. Turner  
Registration No. 33,041  
Attorney for Applicants  
TRASK BRITT, PC  
P. O. Box 2550  
Salt Lake City, Utah 84110-2550  
Telephone: (801) 532-1922

Date: January 22, 2001